



**Federici Business Group**

*Launching Great Ideas Into Great Businesses™*

## Paradigm Optics: A Market Opportunity Analysis

PARADIGM OPTICS

CASE STUDY

# Paradigm Optics: A Market Opportunity Analysis

Every year 50,000 Americans suffer peripheral nerve injuries. The most reliable method of repairing the nerve damage is by patching in a nerve fiber harvested from somewhere else in the patient's body. It is an agonizing decision to know that the desired repair necessarily means that nerve function from the harvest site will end. Paradigm Optics has a promising technology to repair peripheral nerve damage using a synthetic implant that does not require loss of nerve function of any kind.

Paradigm Optics is a start up company in Vancouver, WA. Their expertise is in fabricating very high precision plastic fibers. When this project initiated, their main product was optical fibers for disposable pediatric endoscopes. The scientists at Paradigm Optics were excited about the prospect of developing the nerve implant. However, the management team of the company was leery of investing in the new product because of the notoriously high risks associated with medical products. Federici Business Group was asked to do a market opportunity analysis of the proposed new product to help make the investment decision. The questions Federici Business Group identified as necessary to answer were:

1. What is the status of nerve repairing implants both inside of the universities and in the commercial arena?
2. What is the status of other alternative nerve repair developments?
3. In what ways is the Paradigm Optics technology better or worse than the potential competing products? If some features of the Paradigm Optics' new product compare poorly, can the problems be mitigated?
4. What is the best commercial embodiment of the implant product?
5. Based on the best information of the prices of current peripheral nerve repair products, reported rates of attempts to repair peripheral nerve injuries, and information from SEC filings, what is the dollar value of the medical market for these interventions?
6. What improvements to the new product's organizational structure and funding sources need to be made to successfully complete R&D and launch the product?

Federici Business Group was able to bring bear its doctoral training in the sciences to find and interpret the relevant medical research literature on the who was doing R&D on similar and potentially competitive technologies and how close to commercialization they were. From the knowledge derived this way, Federici Business Group synthesized for Paradigm Optics the preferred embodiment of their implant product and an estimate for the window of opportunity. Using its MBA skills, Federici Business Group also determined the dollar value of the nerve repair marketplace, established probable price points and percent market share for the Paradigm Optics product.

Finally, a well supported recommendation was presented to the company's management team to proceed with the investment. The company's management team decided to follow the recommendation made by Federici Business Group. As of Spring 2008, Paradigm Optics had made significant progress towards completing the nerve implant product. Prototype implants were being tested in monkey models. The successes and development processes are documented in peer reviewed research journal articles. Citations are available on the Paradigm Optics website, [www.paradigmoptics.com](http://www.paradigmoptics.com).

